

EXHIBIT 1

**Alexander Stewart, Ph.D.
Professor of Music
University of Vermont**

December 8, 2017

Re: "Let's Get It On" and "Thinking Out Loud"

I am Professor of Music, Director of Latin American and Caribbean Studies, and Jazz Studies Coordinator at the University of Vermont. I have contributed to numerous peer-reviewed journals and other publications and I am author of a book published by University of California Press. My work encompasses extensive music transcriptions, musicological analysis, historical research, and other scholarly activities, particularly in popular music. I earned a Ph.D. in Music (Ethnomusicology Concentration) from the Graduate Center of the City University of New York (CUNY) and a Master of Music in Jazz and Commercial Music from Manhattan School of Music. During 2006-7 I was a Fulbright scholar researching traditional and popular music in Mexico. As an active professional musician I have performed with leading musicians in jazz and popular music for more than thirty years. I have provided expert opinions and analysis on music copyright matters for over twelve years.

I have been asked to compare two songs: "Let's Get It On" (LGIO) performed by Marvin Gaye and "Thinking Out Loud" (TOL) by Ed Sheeran. Recordings of these songs were provided to me by Mr. Patrick Frank of Frank and Rice PA. I also compared these songs with two live versions of TOL by Sheeran that I found on YouTube, one of which includes an interpolation from "Let's Get It On."¹ In addition, after my initial comparisons, I reviewed reports by Dr. Lawrence Ferrara (undated) and Mr. Anthony Ricigliano (dated April 7, 2015) that were also provided by Mr. Frank.

As I will discuss in further detail below, I have found significant similarities between the songs in question. In my opinion, these similarities can only be the result of copying from "Let's Get It On."

¹ TOL/LGIO: <https://www.youtube.com/watch?v=RxZjVZKVN7k> (accessed 5/30/2015) and TOL: https://www.youtube.com/watch?v=_9jTo_0Fqzg (accessed 5/30/2015).

The following table outlines the general characteristics of “Let’s Get It On” and “Thinking Out Loud.”

General characteristics

Song	Key	Tempo (BPM) ²	Length
LGIO (single version)	Eb major	~82	4:02
LGIO (full version)	Eb major	~82	4:51
TOL	D major	79	4:42
TOL (YouTube)	Db major	82	4:48
TOL/LGIO (YouTube)	C major	~86	5:52

As can be seen, LGIO and TOL are performed at nearly the same tempo, and can be considered exemplar of rock or soul ballads. The key centers are also similarly placed with the commercially-released version of TOL placed in the next lowest key from LGIO (a half step or semitone below LGIO’s key of E-flat major). Other live versions of TOL are placed lower, in D-flat major and C major.

Form

LGIO (single version)

0:00-1:34	verse
1:34-2:19	bridge
2:19-3:05	verse
3:05-3:17	short bridge
3:17-4:02	verse

LGIO (“deluxe” or full version)

0:00-1:34	verse
1:34-2:19	bridge
2:19-3:05	verse
3:05-3:50	bridge
3:17-4:51	verse

TOL (studio version)

0:00-0:24	verse A
0:24-0:48	verse B
0:48-1:13	bridge/pre-chorus
1:13-1:43	chorus
1:43-2:07	verse A2
2:07-2:32	verse B2
2:32-2:56	bridge/pre-chorus
2:56-3:26	chorus
3:26-3:50	interlude (guitar solo)
3:50-4:42	chorus

² BPM = beats per minute

While the above structural analysis seems to suggest that the forms of the songs are different, it is important to note that the basic harmonic pattern and bass line underlying most of these sections remains the same. In both songs the bridge and pre-chorus are the only sections that depart significantly from this underlying four-chord structure. In TOL, the differences between the A and B verses and choruses are only in melodic pattern and lyrical content (and in the chorus, the use of a final cadence).

I have labeled the eight-measure section beginning at 0:24 "verse B" because it continues the same harmonic and underlying musical material as heard during the first eight measures (verse A) and because, each time this section appears, like a verse, it is set to different lyrics. The section beginning at 0:48 I have labeled a "bridge/pre-chorus" because it obviously precedes the chorus. But because the chorus in this song is set to the same harmonies as the verse (except for a final cadence), this section also functions much like a bridge in that it separates and provides harmonic contrast to two harmonically similar sections. While the structures of the songs are not identical, other than this contrasting transitional section (the "bridge" or "pre-chorus"), both songs are built almost entirely on a virtually identical harmonic and rhythmic foundation. This content, heard throughout the majority of both songs, forms a common musical bed on which other melodic similarities are found.

Specific Musical Expression or Content

Methodology

To facilitate comparison, musicologists typically use transposition to place each song in the same key. I have transposed all the following examples from LGIO to D major (the key of the studio version of TOL). Further, in my analysis, following standard musicological procedure, I have used numbers to represent the pitches of the diatonic scale (1=D, 2=E, 3=F or F sharp, 4=G, etc.). In my analysis below, I will occasionally use the integer "8" to indicate the first scale degree at a pitch level an octave higher. Both songs occasionally deploy a "blue" third (a third degree of the scale that ranges from minor to major, or somewhere in-between). The "blue third" typically involves inflection that is difficult to represent in conventional Western notation. Sheeran's melody includes a blue third in the very first measure and others are sprinkled throughout. By the same token, numerous instances of major thirds are heard in LGIO. Contemporary musicological research regards blue thirds ranging from minor to major (and sevenths) as a single tonal area (toneme) rather than as different scale degrees or than as a series of discrete pitches thereby justifying the use of a single integer (3) to represent the entire spectrum of thirds.³

³ See, for example, Evans, David (1982). *Big Road Blues*, p. 24; Kubik, Gerhard. *Africa and the Blues* (1999), p. 87, pp. 118-51 and Kubik, Gerhard. "Blue note," *Grove Music Online*. Oxford Music Online. Oxford University Press, accessed December 7, 2017.

Foundation

LGIO and TOL rely on a strikingly similar foundation comprising melodic, harmonic, and rhythmic elements. As can be seen below, the opening bass line of TOL and LGIO are nearly identical. Melodically, the bass line leaps downward by a sixth before ascending stepwise to the fifth degree of the scale. Example 1 provides the opening bass lines of each song.

Example 1. Basic bass lines in LGIO and TOL (see also Ferrara Report)



In both songs, this melodic sequence can be characterized as 8-3-4-5-5. All of the melodic notes contained in TOL are found in LGIO. The only differences are some slight embellishments or “fills” heard at the end of each measure in LGIO. Indeed, as both songs progress, varying embellishments can be heard while the underlying pattern remains essentially the same.⁴ Dr. Ferrara’s report states that “the *basic* bass line in both songs is on scale degrees 1-3-4-5” [italics added]. As is standard in musicological analysis, Dr. Ferrara’s analysis engages in a degree of reductionism (thereby confirming that all notes in a composition or in a melody are not equally important or relevant to the analysis). The basic rhythm of these bass lines is identical, with the pitches 3 and 5 anticipated or played before the third beat of the measure. Further, the 5 is sounded twice in a syncopated fashion, on the “and” of two and the “and” of three. Rhythmically this two-measure pattern could be counted as “ONE-and-two-AND-three-and-four-and-ONE-and-two-AND-three-AND-four-and.”

Graphically these bass lines can be represented as:

Beat	1	+	2	+	3	+	4	+	1	+	2	+	3	+	4	+
LGIO	D			F#					G				A		A	
TOL	D			F#					G				A		A	

During the opening of TOL this downward leap from the upper tonic is especially prominent and an important element of the melodic contour and contributes

⁴ When extrapolating core musical expression, slight variations or embellishments among multiple variations are discounted. This is common practice in analyzing and comparing music from folk songs to jazz and popular music in order to arrive at a common or paradigmatic version and does not represent any attempt to distort the analysis.

significantly to the melodic flow of the bass line and the underlying cyclical groove (a large fall followed by a steady upward rise back to the first beat of the two-measure pattern). Even when the bass guitar enters in TOL and plays the inverted interval (an ascending third rather than a descending sixth), as depicted in the sheet music, the bass line with the descending sixth continues throughout much of the song.

Any assertion that a bass line can only be found in a bass instrument such as a bass guitar is nonsensical. Bass lines can, of course, be placed on the low strings of the guitar or in the left hand of a keyboard player. Polyphonic instruments such as these are capable of playing multiple parts simultaneously including bass lines. As in this report, Dr. Ferrara's preliminary report also refers to the bass line in the guitar part of TOL as a "bass line."

The bass line, i.e. the lowest melodic part, at the beginning of TOL, when it is most exposed, does have the descending sixth. This is the only bass part heard for the first 24 seconds. Because it is the beginning of the song it makes a lasting first impression on listener. If the guitarist's aesthetic choice was to have an ascending third instead of a descending sixth, he could have easily tuned the first string of his guitar down one whole step and played the ascending line with the same chords. The *scordatura* or alternate tuning for guitar known as "drop d" is extremely common as illustrated in the numerous published instruction books and videos available on-line explaining the simple procedure. Many well-known artists from blues and folk to heavy metal and other popular styles have used this tuning and it can be heard on some of the earliest commercial recordings from more than a hundred years ago all the way to the present day. Even using conventional tuning, the same chords can be played with the ascending third in the line from the open D string (though the F#, G, and A would be sounded an octave higher). In any event, the tuning of one of the guitar strings does not excuse copying the pitches, rhythms, and metric placement. Because of all the other similarities, most listeners familiar with "Let's Get It On" would undoubtedly recognize the similarity between the musical expression in these two songs even without the descending sixth. The composer of LGIO could have elected to use an ascending pattern as in most of the "prior art" cited by Ferrara. TOL copies this more unusual creative choice heard in LGIO.

The published sheet music for TOL shows the descending interval in the bass clef throughout much of the song. When Sheeran performs the song live as a solo act there is no bassist so this bass line is the only bass line heard throughout the entire song. Moreover, during a live performance, the bass guitarist can be heard and *seen* playing the descending sixth.⁵

The basic drum pattern in both songs is also virtually identical as can be seen in example 2.

⁵ https://www.youtube.com/watch?v=_9jTo_0Fqzg (accessed 5/30/2015).

Example 2. Drums in LGIO and TOL

The important elements of the drum parts in LGIO and TOL are the same. The bass drum or “kick” is played on “one” with two syncopations or off-beat figures on the “and” of two and the “and” of three, with an accented snare (or backbeat) on two and four yielding the following rhythm: **ONE-and-TWO-AND-three-AND-FOUR-and-ONE-and-TWO-AND-three-AND-FOUR-and.** The following chart graphically represents the basic drum parts from both songs:⁶

		1	+	2	+	3	+	4	+	1	+	2	+	3	+	4	+
LGIO	hh	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	o
	sn			X				X				X				X	
	bd	X			X		X	X		X			X		X	X	
TOL	hh	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x?
	sn			X				X				X				X	
	bd	X			X		X			X			X		X		

hh=hi hat; sn=snare drum; bd= bass drum

One small difference is that the kick drum in LGIO doubles the snare on beat four. The syncopation in the bass line is accentuated and reinforced by the kick drum. The hi-hat (a double set of cymbals on a stand that can be opened and closed with the foot) is set to steady stream of eighth notes. It is unclear in the recording of TOL whether the hi hat occasionally is also sounded open on the last eighth of every second measure as it is throughout much of LGIO. As can be seen, these drum parts are for all practical purposes identical even though the drummers in both songs, as would be expected, occasionally introduce slight variations in the form of accents or omissions and add “fills” and embellishments. The combination of this drum part with the bass line and harmonies provides a signature foundation for LGIO that is immediately recognizable in TOL even with an ascending third in the bass line.

⁶ After the first measure, the hi hat is generally sounded on every eighth-note in LGIO.

Neither of the preliminary reports submitted by Dr. Ferrara and Mr. Ricigliano make any mention of the drum parts in either song.

In my opinion, the distinctive combination of these bass lines and drum parts found in LGIO and TOL, which are similar in every important detail, could not be a result of independent creation and can only indicate copying. This musical expression forms the core of both songs – the verses of LGIO and the verses and chorus of TOL.

Vocal Melody

The first melodic phrases heard in both songs are substantially similar. This phrase and a slightly different variant are heard eight times in TOL where they form the verse A making it one of the most frequently heard themes in TOL.

Example 3. Opening themes of LGIO and TOL compared

0:01 D F#min G A
 LGIO I've been real - ly try in' ba - by
 0:00 D D/F# G A
 TOL When your legs don't work like they used to be - fore,

Example 3 compares the opening phrase in both songs. As can be easily seen, the phrases are a similar length overlapping the bar line. They begin on exactly the same beat (halfway between beats two and three – the “and” of two). Following standard musicological procedure, the first phrase in each song can be converted to the following pitch sequence:

LGIO 345432212
 TOL 35653212361

The first phrase from LGIO contains eight syllables. Comparing the pitches to which these syllables are set with those of the first eight of TOL yields a very similar sequence:

LGIO 34543212
 TOL 35653212

The only difference is that the three notes following the first pitch are raised by one scale degree – 454 becomes 565. I will discuss this further below.

Another way to analyze this melodic sequence is to look at pitches that have important structural functions.

LGIO 345432212
TOL 356532(1)23(6)1

I have placed two pitches in TOL in parentheses because melodically they function as neighbor tones and/or because of their extremely brief duration and weak rhythmic placement. Using this standard musicological technique, the melodic sequence of TOL can be reduced to 356532231.

The following compares the basic opening melodic gestures of both songs.

LGIO 345432212
TOL 356532231

Once again, the main difference can be found in the second, third, and fourth pitches. Each of these pitches is simply raised one step: from 454 to 565. Even with this slight change the basic melodic contour remains unaltered.

As mentioned earlier, in terms of the rhythms, phrasing, and metric placement, the phrases in example 4 also share significant similarities. Both begin on the same beat (the "and" of two), straddle the bar line of the two-measure pattern repeated in the bass line, harmony, and drums, and end in the middle of the second measure.

It is important to note that at the opening of each song this similar melodic expression is set to similar harmonies and the same bass line and drum part. This phrase forms the basic melodic motif of the "A" verses of TOL where it is heard a total of eight times – at the very beginning of the song four times from 0:00-0:24 and four times from 1:43-2:07. In "Let's Get It On," as the opening phrase, it is undeniably one of the most memorable melodic figurations in the song.

Another important melodic figure heard in TOL is the motive repeated three times at the beginning of each chorus (1:13; 2:56; and 3:50). Example 4 provides examples of this theme from each song.

Example 4. TOL chorus melody

LGIO 2:38
D F#min G A
If you be-lieve in love, let's get it on.

TOL 1:16
D D/F# G A
Take me in-to your lov-in' arms

As can be seen, after beginning on 3, the melody in each song features repeated notes descending from 5 to 3 with a penultimate note on 2 before the final 3. The basic melodic movement then is 354323.

LGIO 35443333123

TOL 35554443323

Variants of this passage can also be heard in LGIO at 0:17 and 3:38. Once again, it is important to note that these melodies are placed over similar bass parts, drum parts, and chords. Like the phrase in example 3, this is one of the most important musical themes in TOL where it is heard a total of nine times during the three choruses.

A final melodic comparison looks at the vocables (non-lexical syllables such as "la, la, la") at 3:35 during the interlude section of TOL. The guitar echoes this figuration four measures later at 3:47. This passage shares significant similarities with one of the most memorable phrases heard in LGIO.

As in the earlier examples, it is also important to consider the context of these melodic similarities – their setting to nearly identical chords, bass parts, and drum parts. Sheeran himself quotes this passage from LGIO when he goes into "Let's Get It On" during a live performance of "Thinking Out Loud" [<https://www.youtube.com/watch?v=RxZjVZKVN7k> (accessed 5/30/2015)].

Example 5. Important phrase from LGIO compared with interlude of TOL and Sheeran performance of TOL that interpolates LGIO during interlude

0:48

LGIO

3:35

TOL

4:51

TOL/LGIO
Sheeran
Live

We're all sen - si - tive peo - ple with so much to give un - der - stand - ding Su - gar since we got to be. We're all sen - si - tive peo - ple sing - in'

This passage, like the passage in example 4, consists of repeated notes on a descending scale.

LGIO	88778776535165
TOL	8887776665553
TOL (guitar)	88887776665555
LGIO (Sheeran 1 st x)	887876135376
LGIO (Sheeran 2 nd x)	8878776

One of the most telling aspects of this interpolation of "Let's get It On" is the structural placement Mr. Sheeran has chosen. He extends the interlude where the guitar solo appears in the studio version, and, instead of singing the "la, la, la's," in example 5 he sings the "we're all sensitive people" phrase notated above, not once, but twice, before returning to the chorus of TOL. He has, in effect, replaced his phrase with this phrase *exactly* where the vocables ("la, la, la," etc.) appear in TOL, immediately before the return of the final chorus. He has substituted Marvin Gaye's phrase for his own. Moreover, he has also *moved the phrase* to almost a measure earlier in order to closely match the placement of his "la la la" and guitar phrases over the underlying harmony, bass line, and drum pattern. I find not only the similarity but also the placement of these phrases in the overall structure (interlude) and similar shift over the harmonies in this performance to be compelling evidence of copying.

Harmonies

As conceded by Dr. Ferrara in his undated report, "Both songs use a similar (but not identical) chord progression in the same harmonic rhythm of two chords per bar in which the second and fourth chords are anticipated (i.e., they occur on the second half of beat 2)."

The basic harmony could be described as

LGIO I iii IV V
TOL I 1/3 IV V

Actually, in the beginning of TOL when only the guitar is sounded, because the harmony is thinner, the second chord could easily be heard as an F-sharp minor chord because the pitch D is absent in the vertical sonority.

LGIO I iii IV V
TOL (opening) I iii IV V

The only difference in the basic harmony in much of the rest of the song is a detail of the closely related second chords, in TOL a D major chord with F# in the bass (D/F#) rather than F# minor. In fact, these chords are virtually interchangeable and both typically function as tonic chords.⁷ The different note in this chord, a "D" instead of C#, does not significantly alter its sound and I doubt that many listeners would notice the difference. As Dr. Ferrara notes, there are multiple variations

⁷ Chords are said to be closely related when they share many of the same pitches. In diatonic harmony, the roots of such chords are usually a third apart, as they are here, F# minor and D. These chords also share the same tonic function. Indeed, the iii and I chords are frequently considered interchangeable.

found within the four-chord progression, and examples of 5-chords (chords without a third), 7th chords, and suspended 4th chords are also found.

Additionally, the many instances of D's in the melody of LGIO over the second chord could justify thinking of the second harmony of LGIO as a tonic chord or Dmaj7/F# or I^{maj7}/iii.

Bridge/pre-chorus

The musical bed on which both songs lie is mostly built from the basic four-chord progression outlined in the above section. Indeed, the only significant departure from this pattern occurs during the bridge of each song when they both move to chords with a sub-dominant function. The opening chords of the bridges are closely related (E minor7 or ii7 in TOL and G major or G7 or IV in LGIO).⁸

These sections involve similar movement to harmony built on the supertonic or second degree of the scale (E minor in TOL and E7 in LGIO) and the dominant or A (ii-V and I⁷-V, respectively).⁹

Despite all these similarities, I should also note by way of difference that the two measures containing the words "we found love right where we are" in TOL are set to different harmony that is not found in LGIO.

I do not find significant differences in the modal qualities of these songs. While LGIO may have a somewhat more blues inflected vocal, both songs employ inflections on various pitches of the scale (especially the third degree) and as can be seen in example 2, Sheeran's melody contains "bent" notes that include F-natural as well as F-sharp. The sheet music to TOL contains blue thirds as can be seen in measures 36, 39, 40 (notated as e-sharps). By the same token, major thirds are abundant in Marvin Gaye's vocal melody – indeed his very first note is a major third (F-sharp). Both songs are built on major tonalities and, I have discussed above, contemporary scholarship regards blues tonality as involving a third degree that is variable in pitch.

Lyrics

While, like Dr. Ferrara, I have found few important lyrical similarities, I believe he somewhat exaggerates the differences when he states: "the lyrics in 'Let's' are about immediate sexual attraction, while the lyrics in 'Thinking' are about long-term romantic love" (undated Ferrara report). Despite LGIO's more overt sexuality, TOL also contains sexual and erotic overtones. (For example: "Will your mouth still remember the taste of my love?") Further, the lyrics to Gaye's song repeatedly emphasize romantic love "If you believe in love....", "We're all sensitive people with so much to give...", "I love you",

⁸ Once again, these chords are a third apart, E and G. They also share the same sub-dominant function and the ii and IV chords are considered practically interchangeable.

⁹ In the sheet music of TOL these chords are given as E minor7 and A7.

"...if the love is true..." In the end, both ballads are celebrations of love to a particular woman. The main difference would be, then, that the attraction in TOL seems to have been consummated while the singer in LGIO is still yearning for fulfillment.

So-called "prior art"

Dr. Ferrara's undated report mentions ten songs that he claims pre-date LGIO that contain similar harmony. As outlined above, the similarities in LGIO and TOL are found in much more than just the harmony. In my preliminary investigation I have examined all of these works and found none that contain the bass line and drum part at issue in this matter (much less the other expression described in this report). Moreover, it will be obvious to any listener that none of these songs sound anything like LGIO and TOL.

It is important to note once again that, in his preliminary report, Dr. Ferrara himself referred to "the bass line" in the guitar heard at the beginning of TOL as containing the descending interval and noted its similarity to LGIO. He writes:

"the first iteration of the bass line in 'Thinking' has a leap down from 1 to 3 that is similar to "Let's." (Ferrara, Undated Report, p. 4).

Clearly, TOL contains both bass lines, the descending sixth *and* the ascending third. In my expert opinion, the descending pattern is prominent in TOL because of its exposure at the beginning of TOL.

Bass line characteristics in common between LGIO and TOL (in guitar)

1 3 4 5

two-measures

descending sixth

anticipation of 3 and 5

syncopation

In fact, the only example in which the second and fourth chords are anticipated (the Díaz version of "Georgy Girl") does not contain the descending sixth of the bass line heard in LGIO and TOL and the percussion part is nothing like the drum parts in LGIO and TOL. Moreover, it stretches credulity to the breaking point to suggest that this apparently obscure Mexican bandleader's cover version of a 1960s pop song (that, in any version, *sounds nothing like either song* in this case) could have had much influence beyond his own backyard.

Example 6. "Georgy Girl" Diaz version

0:06

Bass

C E min F G

Perc

The only examples among the works mentioned by Dr. Ferrara that feature a descending sixth in the bass line with any frequency are Donovan's "Hurdy Gurdy Man" and Holly's "True Love Ways." But in these songs, none of the chords are anticipated and, once again, the drum part is completely different. Moreover, in "Hurdy Gurdy" the bass part contains many extra notes, including the repeated tonic before the downward leap at the beginning. Neither of these examples have any syncopation whatsoever.

Example 7. "Hurdy Gurdy Man" Donovan

1:05

Bass

G B min C D

Drum Set

Example 8. "True Love Ways" Buddy Holly

0:03

Example 8 shows the musical notation for the first three measures of "True Love Ways" by Buddy Holly. The notation is in 4/4 time and B-flat major. The Bass staff shows a descending line: B-flat, D-flat, F, A-flat. The Chords staff shows: B-flat, D-min, E-flat, F. The Drum Set staff shows a simple pattern of eighth notes and rests.

Of the two songs mentioned by Dr. Ferrara in his undated report that post-date LGIO but pre-date TOL, only Lionel Richie's "Do It To Me" contains anticipated second and fourth chords. While the bass line also contains a descending sixth, as can be seen below, there is little or no syncopation and the drum part is in a completely different style (sixteenth-note based subdivision) and bears no resemblance to the drum part in LGIO and TOL.

Example 9. "Do It To Me" Lionel Richie

Example 9 shows the musical notation for the first four measures of "Do It To Me" by Lionel Richie. The notation is in 4/4 time and C major. The Bass staff shows a descending line: C, E, G, B-flat. The Chords staff shows: C, E-min7, F-Maj7, E/G. The Drum Set staff shows a complex pattern of sixteenth notes and rests.

In summary, none of the works cited by Dr. Ferrara contain substantial similarities to the songs at issue in this matter. None of these songs sound anything like the songs at issue in this matter. LGIO and TOL are far more similar to each other than any of these songs are to either of them.

Conclusions

The evidence in this report points conclusively toward the creator(s) of "Thinking Out Loud" having copied important musical expression from the song "Let's Get It On." This unauthorized taking accounts for the foundation, groove, and core musical expression of both songs and, by itself, constitutes a violation of the artistic integrity of the original song. Striking similarities include the bass melody, drum parts, and harmonies in aggregate. Ontologically, the bass part heard prominently in the guitar at the beginning of TOL must be considered a bass line, as acknowledged by defendants' own expert in his initial report. At the risk of restating the obvious, a bass line can be played on any instrument capable of playing low notes and can be played simultaneously with other parts on instruments capable of polyphony (multiple parts) such as guitars or keyboards. Bass lines are frequently assigned to the lower strings of the guitar or the lower range of a keyboard. Moreover, important melodic vocal expression in TOL is also similar that in LGIO. The opening melodic phrase in both songs is important to both songs and is substantially similar (example 3) in pitch sequence, phrasing, contour, and placement. The repeated phrase in the chorus of TOL is substantially similar to an important phrase in LGIO (example 4). A melody set to vocables and in the guitar during the interlude of TOL is substantially similar to one of the most memorable phrases of LGIO ("We're all sensitive people..." (example 5). Sheeran himself quotes this passage from LGIO twice in a live performance and places the phrases in almost exactly in the same place as his similar phrase. The structural placement in the overall form and slight shift in setting over the four-chord groove further confirms his awareness of the similarity of this expression in LGIO and TOL. In a nearly five-minute song, this cannot be the result of coincidence. All these melodies share phrasing, contours, rhythms, and basic pitch sequences. In combination with the harmonies, bass line, and drum parts, this expression reveals that much of TOL has been derived from LGIO.

Other matters

My C.V. contains all pertinent information about my publications and an attached document to this report lists my testimony in other cases over the last four years. I reserve the right to supplement or amend this report in light of any additional material with which I am provided. I am being compensated at the rate of \$275 per hour for the study of this matter and \$575 per hour (four-hour minimum), plus any related travel time and expense, for trial testimony and deposition.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Alexander Stewart", with a long horizontal flourish extending to the right.

Alexander Stewart, Ph.D.
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EXHIBIT B

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EDUCATION

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Ph.D. in Music (Ethnomusicology Concentration), 2000

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Master of Music, Jazz and Commercial, 1991

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UNIVERSITY OF VERMONT

Professor, 2012-present

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Director, Latin American Studies Program, Spring 2006; 2011-present

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Instructor in Music, 1988-1999

Director of Jazz Studies

Additional courses at:

The New School (Jazz and American Culture), 1995-1997

John Jay College of CUNY (History of Jazz and Rock), 1995

COURSES TAUGHT

Jazz History

Jazz Improvisation I & II

World Music Cultures

Seminar in Ethnomusicology

Alex Stewart

Music Theory
Musical Avant-Gardes
Music of Cuba, Puerto Rico, and the Dominican Republic
Duke Ellington
Jazz Ensembles (Big Band and Combos)
Seminar in World Music (Honors College)
Music of Latin America and the Caribbean
Latin Jazz Summer Immersion
Music Business & Copyright
Culture and Politics of Latin American Protest Music (team taught with professors from Political Science, Romance Languages, and Global Studies)

PUBLICATIONS

Books

Making the Scene: Contemporary New York City Big Band Jazz, Berkeley: University of California Press, 2007.

Spanish translation from the French and German: Hans Bodenmann, *El ABC de la Flauta Dulce*. Zurich: Anton Peterer Music & Books, 2003 (Recorder method book).

Articles, Book Chapters, Reviews, Entries

"'Been Caught Stealing': A Musicologist's Perspective on Unlicensed Sampling Disputes" *University of Missouri Kansas City Law Review* 83(2): 340-61 (Winter 2014).

"Make It Funky: Fela Kuti, James Brown and the Invention of Afrobeat." *American Studies* 52(4) (2013): 99-118.

"*La chilena mexicana es peruana*: Multiculturalism, Regionalism, and Transnational Musical Currents in the Hispanic Pacific." *Latin American Music Review/Revista de Música Latinoamericana* 34(1) (Spring 2013) Austin: University of Texas Press.

"'Funky Drummer': New Orleans, James Brown and the Rhythmic Transformation of American Popular Music." Reprinted in *Roots Music*, edited by Mark F. DeWitt. London: Ashgate, 2011 (originally published in *Popular Music* 19(3) October 2000 Cambridge University Press).

Review of Ben Ratliff, *Coltrane: The Story of a Sound*. *Jazz Perspectives* 2(1):103-109 (2008).

"Contemporary New York City Big Bands: Composition, Arranging, and Individuality in Orchestral Jazz," *Ethnomusicology* 48(2) (Spring/Summer 2004): 169-202.

Review of *The New Grove Dictionary of Jazz* in *Ethnomusicology* 47(3) (Fall 2003):376-80.

"Second Line," *Encyclopedia of Popular Music of the World*. London: Cassell 2003.

Alex Stewart

Essay review of Lewis Porter, *John Coltrane: His Life and Music*. *Annual Review of Jazz Studies* 11, 2000-1 [2002]: 237-52.

“‘Funky Drummer’: New Orleans, James Brown and the Rhythmic Transformation of American Popular Music,” *Popular Music* 19(3) (Winter 2000): 293-318.

Review of Scott DeVeaux, *The Birth of Bebop*. *Yearbook of Traditional Music* 30 (1998): 135-7.

Under review or in preparation

Study of relationship of Music and Anarchism: “Music, Media, and Anarchism in the ‘Oaxaca Commune’” (In progress).

LECTURES, COLLOQUIA, CONFERENCE PAPERS

“Blurred Lines: Legal Considerations When Writing.” Canadian Film Centre Slight Music Residency Panel Talk. Toronto, Canada. August 2, 2017

“Creativity and Copyright,” Champlain College, November 11, 2015

Invited Keynote Speaker: Symposium on Hip Hop, Technology, and Copyright. Utah State University. (March 28, 2015).

“Make It Funky: Fela Kuti, James Brown and the Invention of Afrobeat.” Annual Conference of the American Studies Association. Washington DC, November 23, 2013.

“Creativity and Copyright,” Champlain College, October 25, 2013

“Lila Downs: Music, Culture, and Politics in Oaxaca, Mexico.” Pre-Concert Lecture. Flynn Center for the Performing Arts. Burlington, VT. April 26, 2013.

“Music, Media, and Anarchism in the Oaxaca Commune” Paper presented at Music and War Panel. AMS/SEM/SMT Annual Conference. New Orleans. Nov. 2, 2012.

“*Pasos cromáticos en la improvisación del jazz* (Chromatic Passing Tones in Jazz Improvisation).” Lecture/workshop (in Spanish) at Instituto Projazz, Santiago, Chile. May 31, 2012.

“Musicology CSI: Sampling, Interpolation, and Copyright.” Thursdays at One Performance/Lecture Series, UVM Music Department.

“Music, Media, and Anarchism in the ‘Oaxaca Commune,’” Presentation to University of Vermont Global Village, 15 February 2011.

“*Son de las barricadas*: Protest song and revolution on Oaxaca’s Radio APPO.” Paper read at the annual conference of Society for Ethnomusicology (SEM) in Los Angeles, CA, Nov. 2010.

Alex Stewart

"*Son mexicano*" OLLI (Osher Life Long Learning Institute). Pre-Concert Lecture Sones de México. Lane Series 8 October 2010.

"*Música popular* and the Ideology of *mestizaje* in Postrevolutionary Mexico." 1 October 2010, UVM Hispanic Forum.

Musicology CSI: Sampling, Interpolation, and Copyright." Invited lecture, State University of New York (SUNY) Albany, 28 April 2010.

"La Chilena Mexicana: Transnational Musical Currents in the Hispanic Pacific" Global and Regional Studies Lecture, 17 March 2010 Billings Marsh Lounge.

"Copyrights and Copywrongs: Introduction to Forensic Musicology" Invited lecture, State University of New York (SUNY) Plattsburgh, 11 March 2010.

FLYNNsights: Lecture on Charles Mingus opening the residency of the Mingus Repertory Ensembles (Mingus Dynasty, Mingus Orchestra, and Mingus Big Band along with dance troupe choreographed by Danny Buraczeski at the Flynn Center for the Performing Arts. 17 October 2010.

"Supergenre, genre, subgenre: Mexican *son* and the *chilena* complex." Paper presented at the annual conference of the Society for Ethnomusicology (SEM) in Mexico City, November 2009.

"*Socialismo con pachanga*: Music in Revolutionary Cuba." Hispanic Forum, University of Vermont, 22 October 2009.

"Performing Race: Afro-Mexicans and Multiculturalism in Oaxaca's Guelaguetza." Paper presented at the Latin American Studies Association (LASA) XXVIII International Congress, "Rethinking Inequalities" Rio de Janeiro, Brazil, 12 June 2009.

La chilena oaxaqueña: "*El gusto de mi region*." Paper presented at the annual conference of the Sonneck Society for American Music (SAM), Denver, CO, 19-22 March 2009.

Insights FlynnArts. Pre-concert lecture on Maria Schneider and her Orchestra. 22 January 2009. Amy E. Tarrant Gallery at the Flynn Center for the Performing Arts.

"Performing Race: Afro-Mexicans and Multiculturalism in Oaxaca's Guelaguetza Festival." Paper presented at the annual meeting of the Society for Ethnomusicology (SEM), Wesleyan University, Middletown, CT, 28 October 2008.

"*La Danza de las Diablas*"? Race, Gender, and Local Identity in Afro-mestizo communities of Mexico's Costa Chica. Paper presented at the annual meeting of the Society for Ethnomusicology (SEM), Columbus, OH, 28 October 2007.

"*Son de las Barricadas*": Songs of Protest from the Spanish Civil War to the Present on Oaxaca's Radio APPO." Hispanic Forum, University of Vermont, 10 October 2007.

Alex Stewart

"Cross-Cultural Learning through Music and Dance: A UVM Class in Guantánamo, Cuba." Presentation to the UVM College of Arts and Sciences Advisory Board, April 2004.

"Beauty and the Beast: Maria Schneider's *Wyrgly*." Paper presented at special session of the joint meetings of Society for Music Theory (SMT) and the American Musicological Society (AMS), "Women in Jazz: Voices and Roles," Columbus, OH, 1 November 2002.

"On the Edge: Sue Mingus and the Mingus Big Band." Colloquium at the University of Illinois (Urbana and Champaign), 6 March 2002.

"*Blood on the Fields*: Wynton Marsalis and the Transformation of the Lincoln Center Jazz Orchestra." Paper read at the 2001 annual meeting of the Society for Ethnomusicology (SEM), Detroit, October 2001.

"The Jazz Concerto as Collaborative Work: Jim McNeely's 'Sticks.'" Paper read at the joint meeting of the Society for Music Theory (SMT) and other major music societies in Toronto, 4 November 2000.

"New York City Big Bands and the Professional Jazz Musician." Paper read at the annual meeting of the Society for Ethnomusicology (SEM) in Bloomington, IN, 24 October 1998.

"From Mardi Gras to Funk: Professor Longhair, James Brown and the Transformation of Rhythm and Blues." Paper read at joint meeting of the Society for Ethnomusicology (SEM) and the International Association for the Study of Popular Music (IASPM) in Pittsburgh, PA, October 1997.

GRANTS AND AWARDS

Interdisciplinary Experiential Engagement Award for course proposal, *Culture and Politics of Latin American Protest Music*, to be taught in collaboration with Political Science, Romance Languages, Global Studies, and Music Departments. January 2013.

Lattie F. Coor Award for International Travel to present paper and chair panel at the Society for Ethnomusicology conference (SEM) Mexico City. November 2009.

Joan Smith Faculty Research Support Award *Performing Race: Afro-Mexicans, Multiculturalism, and the "Black Pacific."*

Lattie F. Coor Award for International Travel to present paper at the Latin American Studies Association (LASA) Congress in Rio de Janeiro, Brazil. June 2009.

Fulbright Research Fellowship to Mexico, Afro-Mexican music, 2006-7.

Award for Contribution to Vermont Jazz Education, presented by Wynton Marsalis and the Flynn Center for the Performing Arts, October 2005.

UVM Arts and Sciences Dean's Fund for Faculty Development (to initiate fieldwork in the Costa Chica of Mexico), Fall 2005.

Alex Stewart

UVM Humanities Center Research Grant, Spring 2004.

UVM Global Outreach Committee Grant, March 2003.

UVM Arts and Sciences Faculty Development Grant for study in Cuba, May 2002.

2001 Barry S. Brook Award for best dissertation in music CUNY.

CUNY Dissertation Year Fellowship 1998-1999.

SELECTED RECORDINGS

Rick Davies *Thugtet* – Tenor saxophone Emlyn Music EM 1003 (2017)

Rick Davies and Jazzismo, *Salsa Norteña*, - Tenor saxophone (Recorded in Montreal 2011 (2012).

New York Jazz Repertory Orchestra, *Le Jazz Hot*, featuring Dave Liebman and Vic Juris. Planet Arts 310976 - Baritone saxophone, bass clarinet (2009).

Rick Davies and Jazzismo, *Siempre Salsa*, featuring Wayne Gorbea. Emlyn Music EM1001 - Tenor saxophone (2006).

Anne Hampton Callaway, *To Ella with Love*, featuring Wynton Marsalis, Christian McBride, Lewis Nash, Cyrus Chestnut. Touchwood Records TWCD 2006 - Tenor saxophone and clarinet (1998).

Peter Herborn, *Large*, featuring Gene Jackson, Greg Osby, Robin Eubanks, and others. Jazzline JL1154-2 – Baritone saxophone and bass clarinet (1998).

Billy Stritch, *Waters of March: The Brazilian Album*. Sin Drome SD8950 - Tenor saxophone and flute (1998).

Dave Stryker, *Nomad*, featuring Randy Brecker and Steve Slagle. Steeplechase Records SCCD31371 - Baritone saxophone and bass clarinet (1997).

Frankie Lane: *Wheels of a Dream*. Touchwood Records TWCD 2020 - Tenor saxophone, flute, and alto flute (1997).

The Bill Warfield Band, *The City Never Sleeps*. Seabreeze Records CDSB 2048 - Baritone saxophone and bass clarinet (1996).

Alex Stewart

SELECTED PERFORMANCES: JAZZ AND LATIN

Burlington Discover Jazz Festival Big Band (Music Director, Contractor, Performer)

Birth of the Cool: Music by the Miles Davis Nonet. Featuring Ray Vega, trumpet. Performances in June 2012 (BDJF), and in September 2012 (UVM), and May 2013 (SUNY Plattsburgh).

Textures: Jim Hall with Brass featuring the Jim Hall Trio (Jim Hall, guitar, Scott Colley, bass and Joey Baron, drums) with brass ensemble, Alex Stewart, conductor. Flynn MainStage, 2010 Burlington Discover Jazz Festival.

Paquito D'Rivera Funk Tango. Produced, co-directed, and played saxophone in concert on Flynn MainStage with 17-piece orchestra with guests: Paquito D'Rivera, alto saxophone; Diego Urcola, trumpet; Alex Brown, piano; Massimo Biocalti, bass; Mark Walker, drums; and special guest Ray Vega, trumpet. Burlington Discover Jazz Festival (1 June 2008). Reviews in *Free Press*, *AllAboutJazz*, and other media.

Mary Lou Williams Resurgence with Cecilia Smith, vibraphone and Amina Claudine, piano, 2007 Burlington Discover Jazz Festival, Flynn Center.

Music of Jim McNeely with special guest Jim McNeely, piano 2006 Burlington Discover Jazz Festival, Flynn Center.

Sketches of Spain: Celebrating the Miles Davis/Gil Evans Collaboration with trumpeter Randy Brecker and guest conductor, Joe Muccioli 2005 Burlington Discover Jazz Festival, Flynn Center.

The Grand Wazoo: Music of Frank Zappa, with Ernie Watts, Napoleon Murphy Brock, Ike Willis, and Ed Palermo 2004 Burlington Discover Jazz Festival, Flynn Center.

Duke Ellington Sacred Concert, with David Berger, Priscilla Baskerville, Paul Broadnax, and 100-voice Choir, 2003 Burlington Discover Jazz Festival, Flynn Center

Rick Davies & Jazzismo

Featured Performer: Jazz Education Network Conference, San Diego, CA January 2015.

Workshops and concerts, Colectivo Central, Oaxaca, Mexico. June, July 2011.

With guest pianist/composer Arturo O'Farrill (and sons, Zachary, percussion and Adam, trumpet), FlynnSpace. 2010, 2011, 2012, 2013, 2014, 2015. With Jonathan Maldonado, drums, and Papo Ross, vocals and alto saxophone, 2009.

With guest artist Ray Vega, FlynnSpace (July 2003, 2004, 2005, 2006, 2007, 2008).

Appearances at SUNY Plattsburgh Jazz Festival (with Harvie S., 2002; with Chocolate Armenteros 2003; with Ray Vega 2008, 2011; with Curtis Fowlkes 2010); Red Square and other venues.

Alex Stewart

Oaxaca, Mexico: Colegio Teizcali, Colectivo Central, Spring 2007.

Other Jazz and Latin

Featured soloist – SUNY Plattsburgh Jazz Festival December 2013.

James Harvey and Garuda – opening act for Randy Weston in Discover Jazz Festival (2004); numerous other performances around region.

Beboparaka (featuring poetry of Amiri Baraka) and JazzLit.com – jazz and poetry collaborations with UVM professors Major Jackson, Tina Escaja, John Gennari and UVM students. Performances at the Discover Jazz Festival and local venues. Coverage in the *Burlington Free Press* and *Vermont Quarterly* (2005, 2006).

Grupo Sabor (Salsa and Merengue) – Performances in UVM's Grand Maple Ballroom and Brennan's Pub for Alianza Latina (2010), Higher Ground, Burlington; Red Square; Eclipse Theater, Waitsfield; Onteora Club, New York; Burlington Latino Festival (2001-present).

Performances with UVM jazz faculty (Jeff Salisbury, Joe Capps, Paul Asbell, Patricia Julien, Ray Vega, John Rivers, Tom Cleary, Rick Davies, Steve Ferraris) at recitals, concerts, and other events (1999-present).

The Lionel Hampton Orchestra; featured artists: Dizzy Gillespie, Dee Dee Bridgewater, and others. Extensive tours of Europe and North America and appearances at major jazz festivals including: North Sea, Nice, Montreal, Newport (NY and Saratoga), Biarritz (1989-1991). The Bill Warfield Band, The Dorsey Brothers Orchestra, David Berger, Paquito D'Rivera, Clem DeRosa, Bobby Shew, David Liebman, Andy Farber, Stan Rubin, Lew Anderson, Billy Mitchell, Roland Hanna, Lew Soloff, Randy Brecker and many more (1985-1999).

The Lehigh Valley Repertory Jazz Orchestra: *Sketches of Spain* featuring Randy Brecker, *An Evening with David Liebman*, *A Tribute to Benny Goodman* featuring Buddy DeFranco, and *Celebrating Louis Armstrong* featuring Jon Faddis (1997-2000).

SELECTED PERFORMANCES: POPULAR AND BLUES

Frankie Valli, Ray Charles (Sweden 1999), Mary Wells, Frankie Avalon (Atlantic City), The Drifters, Funk Filharmonik, The Funk Collection, Nick Apollo Forte, Little Wilson, Sandra Wright Band, Jimmy Branca and the Red Hot Instant Combo, Dave Grippo Funk Band, and others (1985-present).

Contractor, musical director. *Joan Rivers*. Flynn Center for the Performing Arts. April 26, 2012.

Orchestra contractor with Bernadette Peters at the Flynn Center of the Arts October 2011.

Alex Stewart

CLINICS AND GUEST CONDUCTING

Guest Conductor, Connecticut Valley District Jazz Festival, January 30-31, 2015.

Guest Conductor, Winooski Valley Jazz Festival, February 4-5, 2010.

Adjudicator/Clinician, Vermont All-State Festival, International Association of Jazz Educators (IAJE): 2000-2003.

Guest Conductor, Nassau County (Long Island) All-County Jazz Festival, 1997.

MEMBERSHIPS

Friends of Indian Music and Dance (FIMD), Burlington VT

Burlington Discover Jazz Festival Advisory Board

Society for Ethnomusicology (SEM)

Society for American Music (Sonneck)

American Musicological Society (AMS)

Latin American Studies Association (LASA)

EXHIBIT C

PRIOR TESTIMONY DURING LAST FOUR YEARS
ALEXANDER STEWART, PH.D.
December 8, 2017

Testimony by Deposition (Burlington, VT, May 20, 2015). RALEIGH, NC #301280 Absent Element v. Daughtry.

Testimony by Deposition (Burlington, VT, May 17, 2016) and in Trial (June 17, 2016) Federal District Court, Los Angeles Case No. 15-cv-03462 RGK (AGRx). Skidmore v. Led Zeppelin, et al.

Testimony by Deposition (New York, NY, November 3, 2017) Supreme Court of the State of New York, Index No. 650427/2016. Pai v Blue Man Group Publishing, LLC, et al.